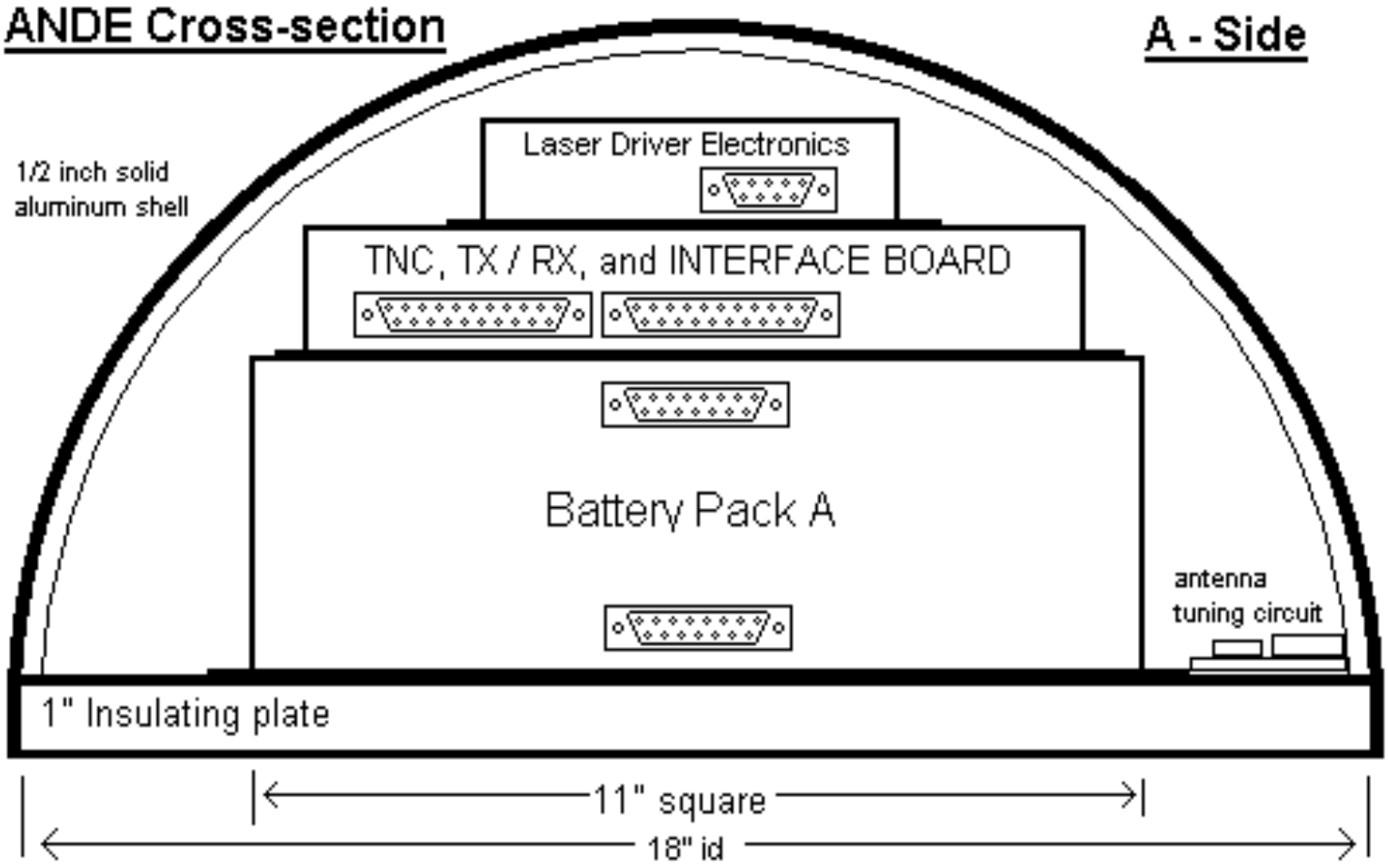
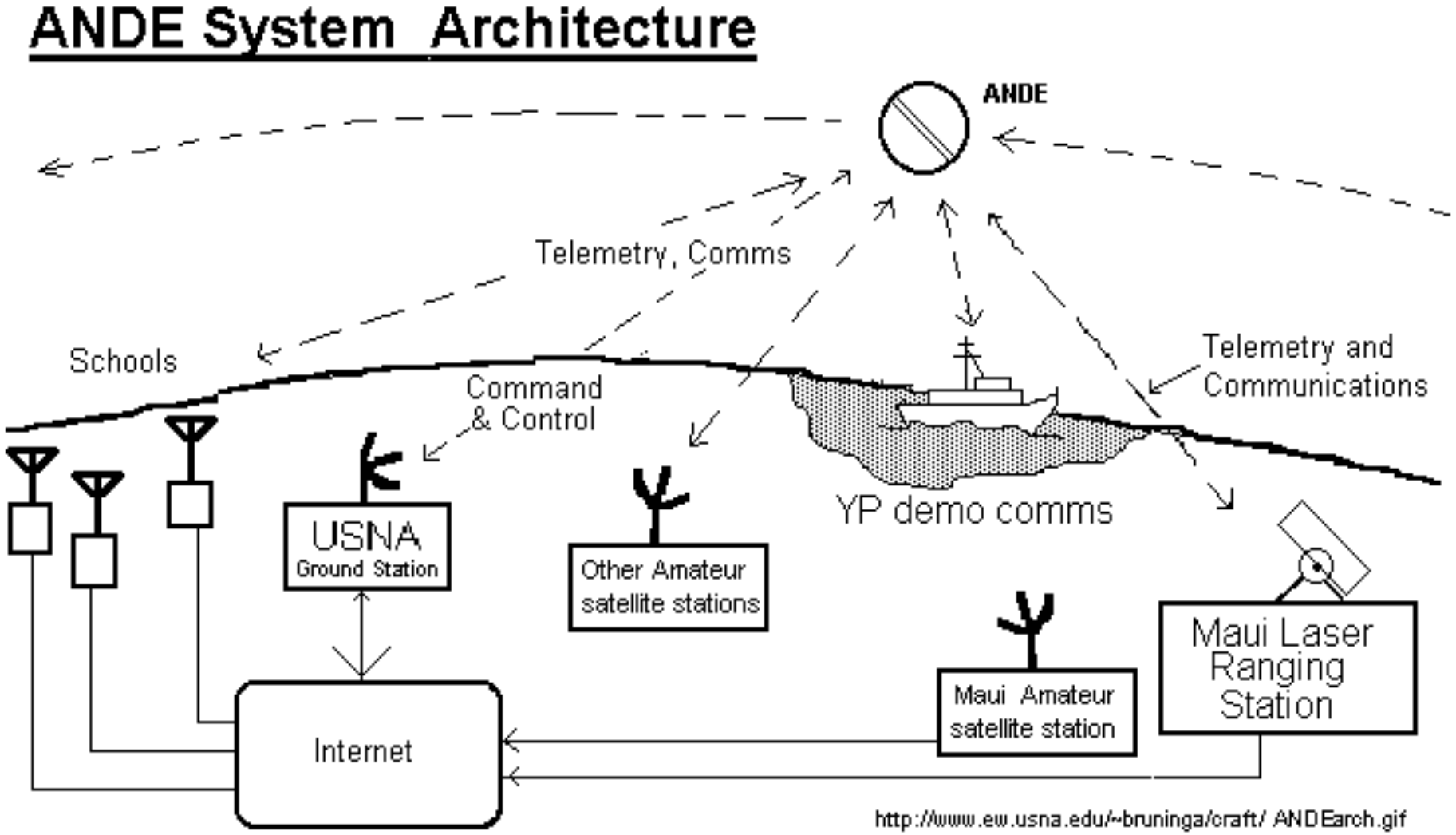
ANDE Satellite

Bob Bruninga
US Naval Academy Satellite Lab

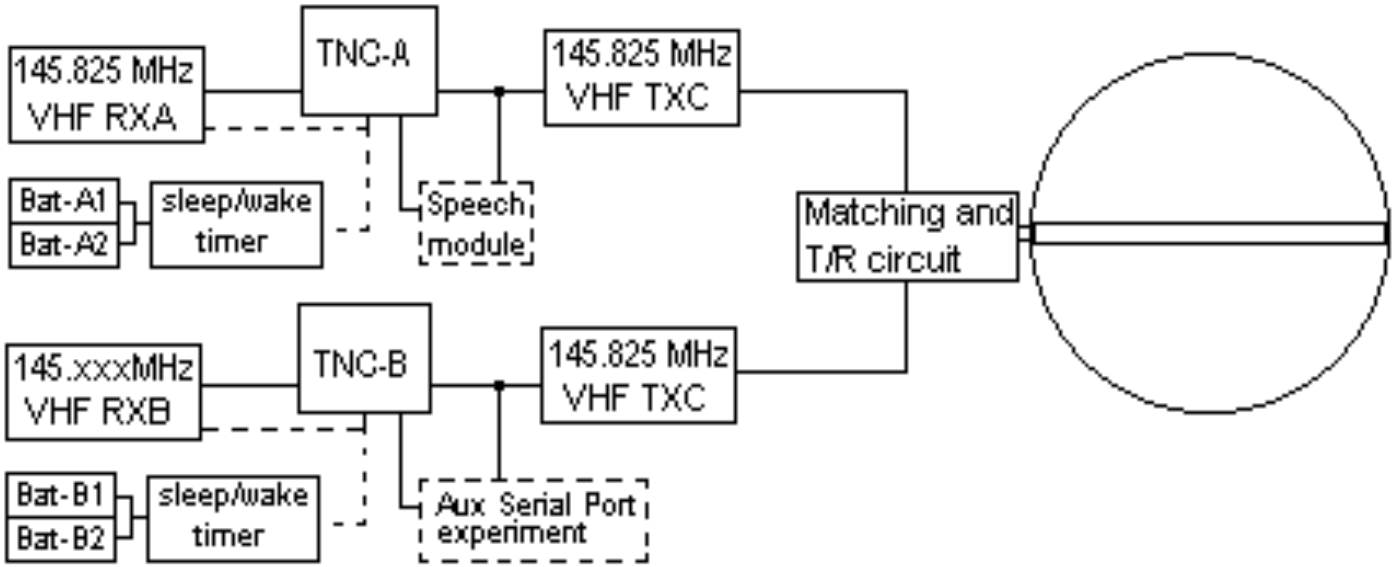

ANDE Cross-section
A - Side
1/2 inch solid aluminum shell
Laser Driver Electronics
TNC, TX / RX, and INTERFACE BOARD
Battery Pack A
antenna tuning circuit
1" Insulating plate
11" square
18" id
As of 16 October decision has been made to use only 2 battery packs per side
18 Mar 2004
http://www.ew.usna.edu/~bruninga/ande/ANDEsection.gif

ANDE Satellite



ANDE COMMS Block Diagram

WB4APR



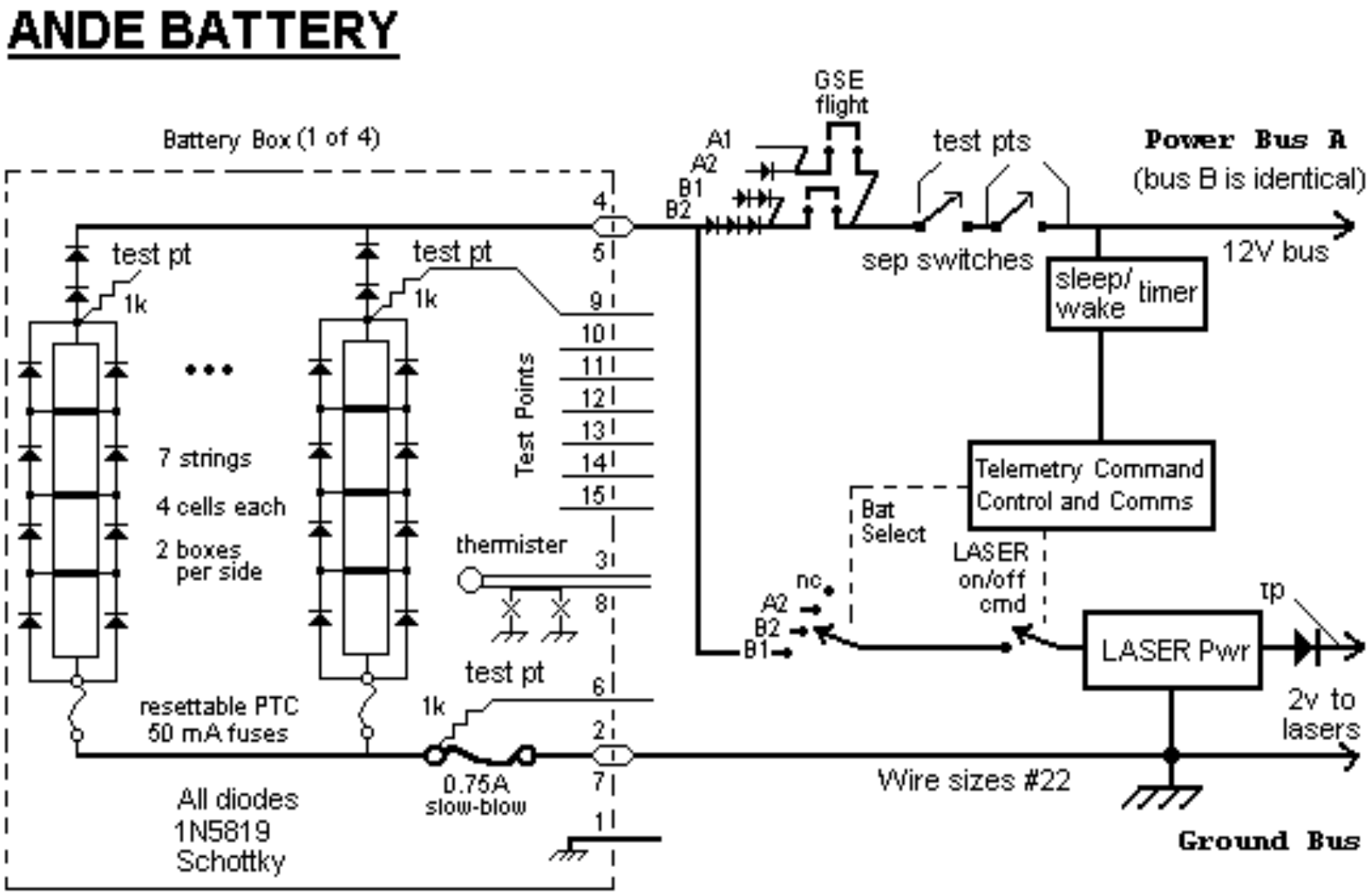
RF System: ANDE has two independed AX.25 Packet Command and Telemetry systems. The primary system operates like PCsat providing Telemetry on 145.825 and supporting users communications. The secondary is on unpublished frequenceis.

Antenna: Both systems are matched to the ANDE Sphere as a dipole antenna.

Telemetry: Each system A or B has several common telemetry items and a few items that are unique to each side.

Power: To save power, both systems sleep 90% of the time. The A side wakes for 1.5 secs out of every 15 and the B side wakes for 1.5 secs once a minute. If either detects activity, they will remain awake for a minute since the last signal heard.

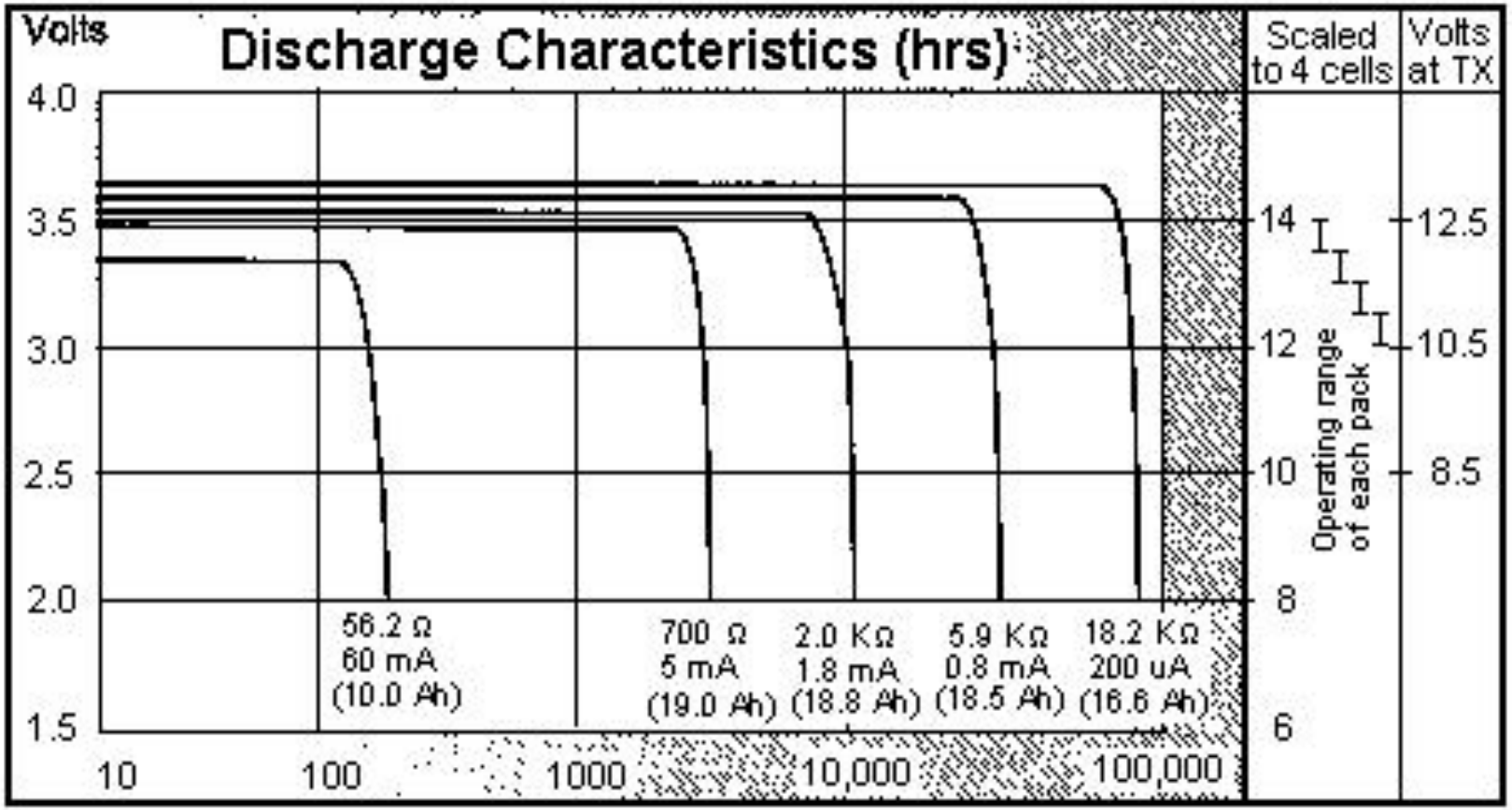
Power System Design



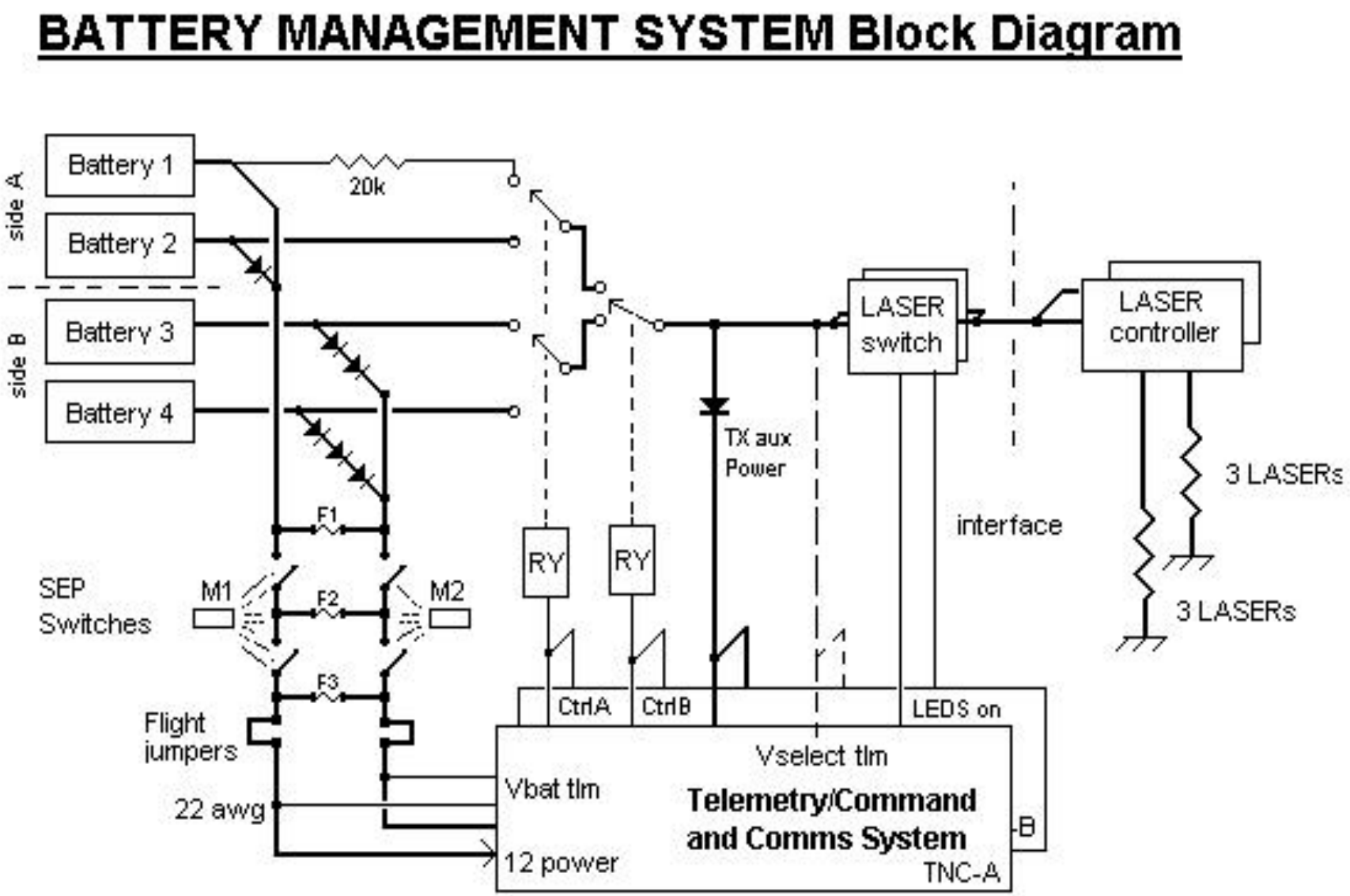
One of 4 Battery Trays

One of 4 Battery Trays

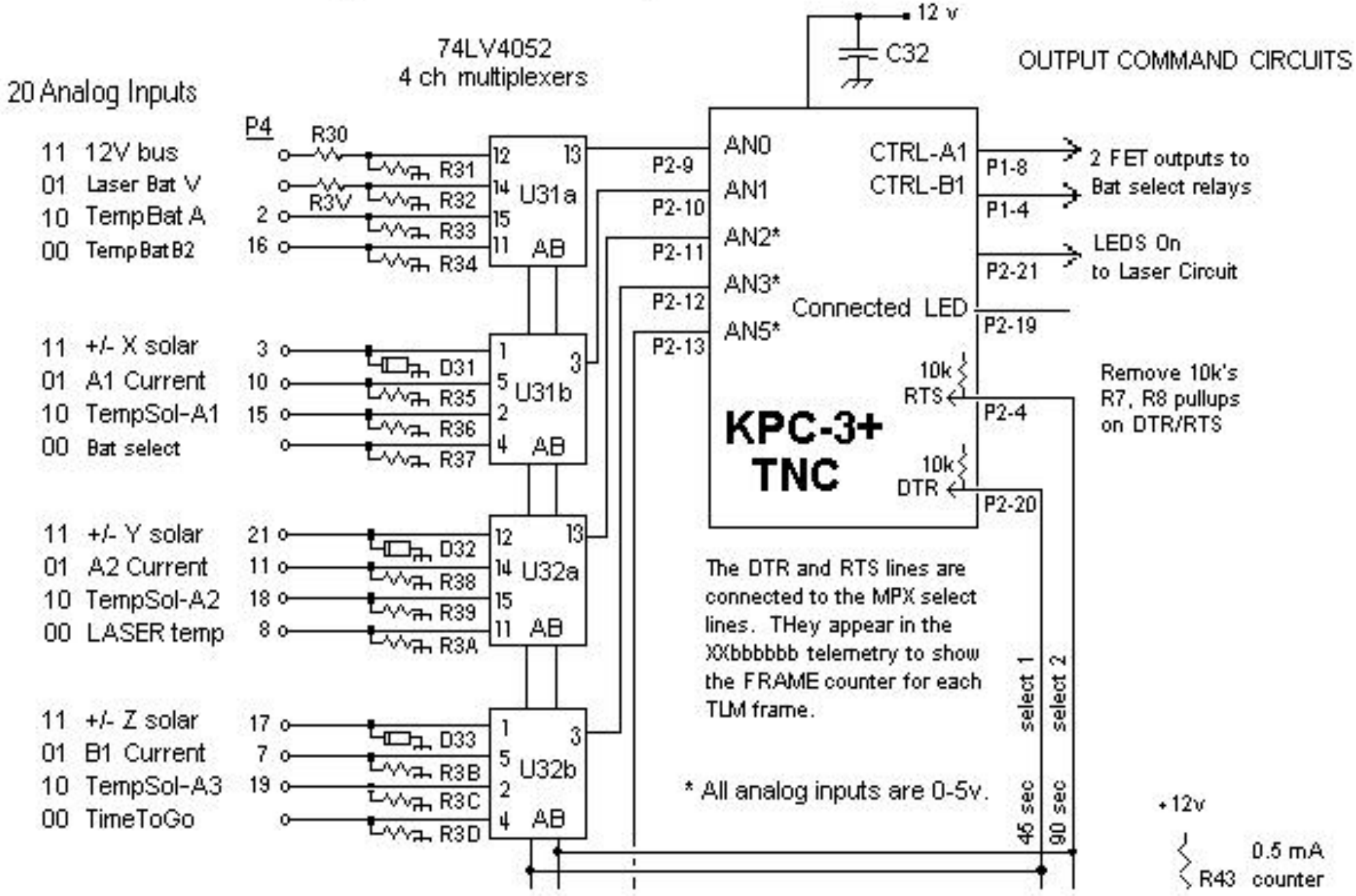
Battery Management



Battery Management

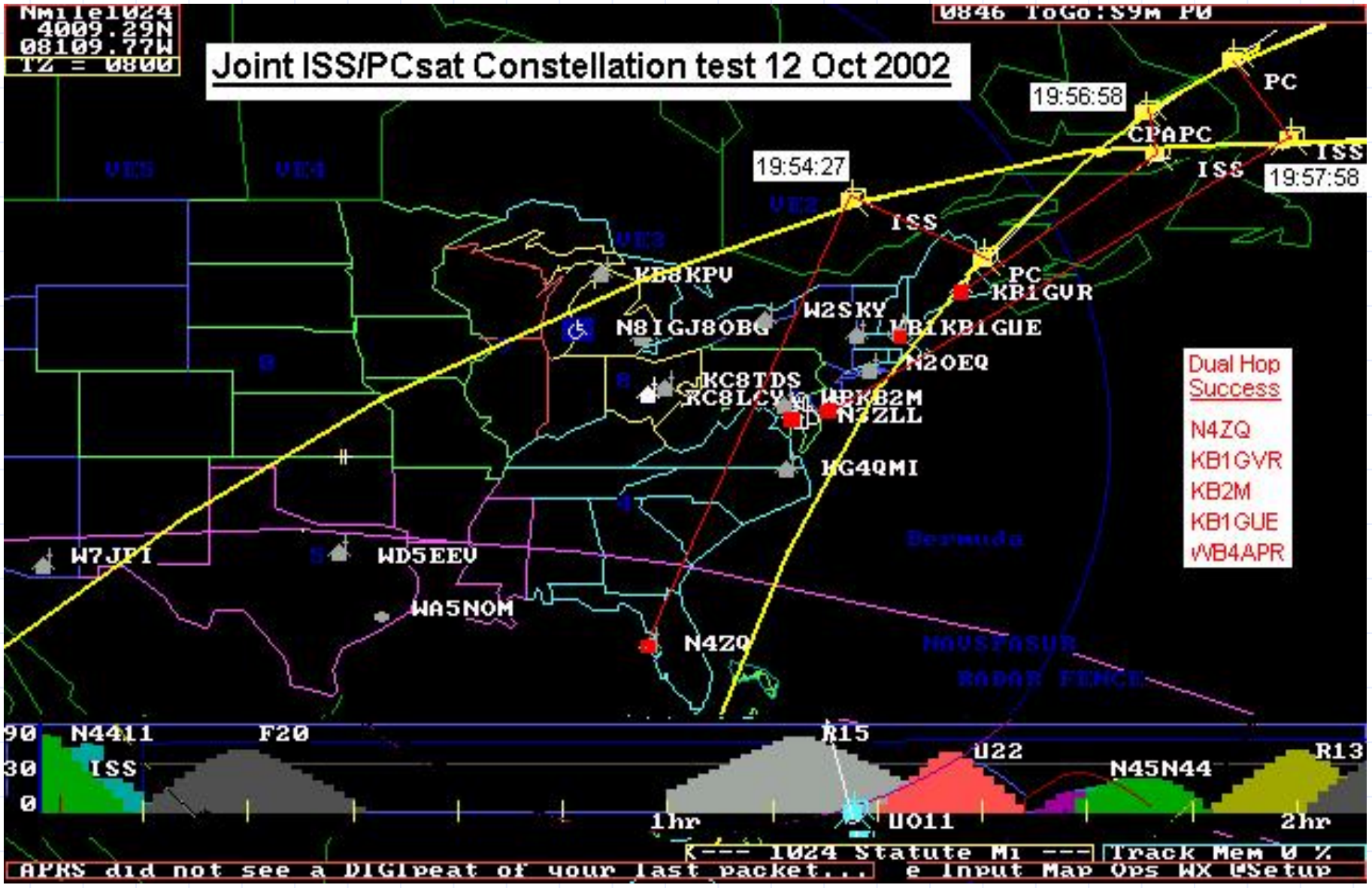


20 Channel Multiplexer for KPC-3+



Typical Student User Station

APRS Packet Operation



APRS around the world